AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at pages 4 and 5: page 4, lines 22-28; page 5, lines 1-4 with the with the following paragraph:

In operation, the lapping process is controlled by the control system 12. The controller 34 retrieves instructions and parameters from memory 42. Instructions and information are received from user input 38, and the status of the lapping process may be displayed on the display 40. Feedback regarding the progress of the lapping operation is received through the ELG feedback connection 46 and is provided to the controller 34 by the ELG input 44. The controller 34 responsively controls the balancing actuator 26 and carrier actuators 28a through 28g in response to the data from the ELG input 44. Thus, the lapping system 10 provides a closed loop control system in which the output from the ELG sensors are used as feedback by the controller 34 to control the actuators [[26,]] 28a through 28g.

Please replace the paragraph at pages 10 and 11: page 10, lines 26-28; page 11, lines 1-5 with the following paragraph:

As the ABS 72 is lapped, a magnetic field 94 is applied to the ABS 72 and a bias current is applied to the reader element on each [[of the]] slider on the bar 70. As the magnetic field 94 is applied, it is possible to directly monitor the MR elements for such electrical response signals as a change in resistance or amplitude through each MR read element. These electrical responses are provided to the data acquisition unit 78 via the feedback connections 92. The controller 80 uses this feedback to form a sensor height profile of the bar 70. The sensor height profile is an indication of the stripe height of each MR element on the bar 70.

Please replace the paragraph at page 11, lines 6-17 with the following paragraph:

Once a sensor height profile is created for the bar 70, the controller 80 controls the control driveres 86 corresponding to each slider on the bar 70 during the material removal process based on the

stripe height profile. The controller 80 is configured to control the bending and balancing of the fixture relative to the material removal device 74. The control drivers 86 are further configured to allow individual positioning of each slider 70 relative to the material removal device 74 to precisely control the material removal at each slider 70. For instance, the control drivers 86 may be configured to cause a particular slider on the bar 70 to come into contact with the material removal device 74. As the material removal progresses and the desired target stripe height of the MR element on the slider 70 is reached, the control drivers 86 can be directed to remove the slider 70 from contacting the material removal device 74 so that lapping proceeds more slowly or even stops.

Please replace the paragraph at page 11, lines 18-25 with the following paragraph:

The MR element on each slider 70 can thus be used directly to provide the desired feedback during machining to ensure the desired stripe height is reached on each slider on the bar 70. Electrical parameters of the MR read element, such as amplitude or change in resistance, vary as a function of the magnetic field 94 applied to the MR element. The relationship between the desired electrical parameter and the magnetic field may be known or determined by modeling. Once the relationship is determined, the control system 76 can control the material removal process so that material removal proceeds until the desired stripe height target, as indicated by the resistance change or amplitude, is reached.

Please replace the paragraph at page 15, lines 6-10 with the following paragraph:

Typical dimensions of the reference resistor R_{ref} are width $W_{ref} = 40$ micrometers and length $L_{ref} = 700$ micrometers. Typical dimensions of the resistor R_a are width $w_a = 25$ micrometers and length $L_a = 70$ micrometers. The ~~Offset~~ offset 156 refers to the spacing of the dummy reader 146 relative to the resistor R_a 150 when the two are not located in the same plane.